# UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

ALPARI (US), LLC, on Behalf of Itself and All Others Similarly Situated,

Case No. 17-cv-05275

**CLASS ACTION COMPLAINT** 

Plaintiff,

v.

THE GOLDMAN SACHS GROUP, INC. and GOLDMAN, SACHS & CO.,

JURY TRIAL DEMANDED

Defendants.

#### NATURE OF THE ACTION

- 1. This is a class action brought to recover the damages that Plaintiff and a class of similarly situated participants in the foreign exchange ("FX") market suffered as a result of Defendants The Goldman Sachs Group, Inc. and Goldman, Sachs & Co.'s (together, "Goldman" or "Goldman Sachs") practice of reneging on orders that it matched and accepted through its own and third-party electronic trading platforms. The allegations herein are based on information and belief, except as to Plaintiff's own actions.
- 2. Goldman Sachs is one of the largest currency dealers in the FX market and is a well-known "Liquidity Provider" or "Market Maker." As a Liquidity Provider, it acts as both a buyer and seller of currencies through its own proprietary electronic trading platforms and through third-party electronic communications networks ("ECNs"), described below, by streaming prices to buy or sell a stated amount of a currency at particular prices and entering into transactions thereon.

- 3. Plaintiff and the Class members are among Goldman Sachs's counterparties in these FX transactions. Through Redi FX, Marquee Trader and other third-party ECNs, Goldman Sachs's counterparties placed electronic market orders to trade a given volume of currency. A market order constitutes an offer to trade a given volume of currency at the best, immediately available market price.
- 4. The matching and execution of electronic FX transactions is governed by sophisticated computer algorithms. The algorithms operate to match Plaintiff's and Class members' market orders (offers) with corresponding streaming prices from Market Makers, including Goldman Sachs. When those algorithms match Plaintiff's market orders with Goldman Sachs's streaming prices, *i.e.*, the best, immediately available market price for a given volume of currency, Plaintiff forfeits the ability to complete that order with another party or with Goldman Sachs at a different price or amount. An agreement has been reached.
- 5. Many times, however, Plaintiff and the Class members did not receive the matched and agreed-on contract price (*i.e.*, the best, immediately available price). Instead of executing the trade as promised once it had been received and matched with an outstanding and still valid streaming price, Goldman Sachs delayed the execution of matched trades and, when it determined during the delay that the trade would be unfavorable to its position or that it could extract a larger profit, it reneged on the agreed price and either cancelled Plaintiff's and Class members' orders or filled them at worse prices. This practice has been dubbed "Last Look," and Goldman Sachs's Last Look practices caused significant damages to Plaintiff and the Class while unjustly enriching Goldman Sachs.
- 6. Goldman Sachs's use of Last Look created for itself an undisclosed, unauthorized, and uncompensated (but valuable) "option" to accept or reject an algorithmically-matched trade

based on price movements *subsequent* to the trade being matched. Meanwhile, Plaintiff and class members, as Goldman Sachs's counterparties, were "locked-in" to that trade, unaware that there was any delay taking place and of the purpose of that delay.

- 7. Throughout the Class Period, Goldman Sachs used Last Look to reject millions of trades that would have been otherwise executed but for Goldman Sachs reneging on its matched orders. As a result, Goldman Sachs breached those contracts. Goldman Sachs's conduct caused injury to Plaintiff and the Class members and caused Goldman Sachs to be unjustly enriched at their expense.<sup>1</sup>
- 8. Goldman Sachs kept its use of Last Look secret, and Plaintiff had no reasonable way of detecting Goldman Sachs's use of Last Look. Goldman Sachs never disclosed to Plaintiff that Goldman Sachs was using Last Look in this manner.

#### JURISDICTION AND VENUE

- 9. This Court has subject matter jurisdiction under 28 U.S.C. §1332(d) because the Class contains more than 100 persons, the aggregate amount in controversy exceeds \$5,000,000, and at least one Class member is a citizen of a State different than Goldman Sachs.
- 10. This Court has personal jurisdiction over Goldman Sachs. Goldman Sachs has:
  (1) transacted business in the United States, including in this District; (2) exchanged currency with Class members throughout the United States, including in this District; (3) substantial contacts with the United States, including in this District; and (4) committed substantial acts in furtherance of its unlawful scheme in the United States, including in this District.

Except as alleged in this Complaint, neither Plaintiff nor other members of the public have access to the underlying facts relating to Goldman Sachs's improper activities. Rather, that information lies exclusively within the possession, custody, or control of Goldman Sachs and other insiders, which prevents Plaintiff from further detailing Goldman Sachs's misconduct. Plaintiff believes further evidentiary support for its allegations will come to light after a reasonable opportunity for discovery.

11. Venue is proper in this District under 28 U.S.C. § 1391(b), (c), and (d). Goldman Sachs resided, transacted business, was found, and had agents in this District; a substantial part of the events giving rise to Plaintiff's claims arose in this District; and a substantial portion of the affected interstate trade and commerce described herein has been carried out in this District.

#### **PARTIES**

- 12. Plaintiff Alpari (US), LLC ("Alpari") was a New York company headquartered at 14 Wall Street, New York, NY 10005 during times relevant to this complaint. Alpari was dissolved on September 18, 2015.
- 13. Upon information and belief, Plaintiff was subjected to Last Look and suffered damages as a result.
- 14. Defendant The Goldman Sachs Group, Inc. is a Delaware corporation headquartered at 200 West Street, New York, New York 10282. The Goldman Sachs Group, Inc. is a bank holding company and a financial holding company. Defendant Goldman, Sachs & Co. is a wholly-owned subsidiary of The Goldman Sachs Group, Inc. and is its principal operating subsidiary in the United States. Goldman, Sachs & Co. is located at 200 West Street, New York, New York 10282. Defendants The Goldman Sachs Group, Inc. and Goldman, Sachs & Co. are referenced collectively in this Complaint as "Goldman Sachs." Defendant Goldman Sachs, on its own behalf and through its control of its proprietary trading platforms, engaged in FX transactions with Plaintiff and the Class that are the subject matter of this lawsuit.
- 15. Goldman Sachs, as used in this Complaint, includes all of Goldman Sachs's predecessors, subsidiaries, or affiliates that played a material role in the unlawful acts alleged herein.

#### FACT ALLEGATIONS

#### **Background on the FX Market**

- 16. The FX market is where currencies are traded. It is the largest and most actively traded financial market in the world. According to the most recent BIS Triennial Central Bank Survey,<sup>2</sup> global trading in FX averaged \$5.1 trillion per day in April 2016.<sup>3</sup> United States trading in FX averaged \$1.273 trillion per day in April 2016.<sup>4</sup>
- 17. The FX market revolves primarily around spot transactions. A spot transaction involves the exchange of currencies between two counterparties on a value date that is usually within two bank business-days' time, which is typically how long it takes a currency trade to settle. Spot transactions account for just under half of daily FX turnover in the United States, roughly \$581 billion.<sup>5</sup>
- 18. Forward transactions are another major component of the FX market. In FX forwards also called "outright forwards" the exchange (settlement) of the currencies is delayed beyond the customary two bank business-days' time, often months into the future. FX forwards trade just like FX spot; their market prices simply reflect the impact of differing interest

The BIS Triennial Central Bank Survey describes itself as "the most comprehensive source of information on the size and structure of global foreign exchange (FX) and over-the-counter (OTC) derivatives markets." Bank for International Settlements, *Triennial Central Bank Survey: Foreign exchange turnover in April 2016* (Sept. 2016), *available at* http://www.bis.org/publ/rpfx16fx.pdf (hereinafter BIS, Triennial Bank Survey 2016), at 3. Central banks, including the Federal Reserve Bank of New York, and other authorities in 52 jurisdictions participated in the survey, collecting data from 1,300 banks and other financial institutions throughout the world. *Id*.

BIS, Triennial Bank Survey 2016, at 3.

Federal Reserve Bank of New York, *The Foreign Exchange and Interest Rate Derivatives Markets: Turnover in the United States, April 2016* (2016), available at https://www.newyorkfed.org/medialibrary/media/markets/pdf/2016triennialreport.pdf (hereinafter Fed Triennial Bank Survey 2016), at 1.

<sup>&</sup>lt;sup>5</sup> Fed Triennial Bank Survey 2016, at 3.

rates over time. Forward transactions account for approximately 17% of daily FX turnover in the United States, or roughly \$219 billion.<sup>6</sup>

- 19. Approximately 98% of FX trading occurs over the counter ("OTC"),<sup>7</sup> meaning that it does not occur on a centralized exchange. FX trading is thus predominantly accomplished through bilateral contracts between two counterparties.
- 20. According to the *EUROMONEY* FX Survey for 2016, Goldman Sachs held the seventh largest percentage of the FX market, with an overall market share of 4.65%.<sup>8</sup>
- 21. In FX trading, large banks, like Goldman Sachs, act as Liquidity Providers or Market Makers. They represent the "sell side" and are typically "price makers." Plaintiff and the Class represent the "buy side," which includes, but is not limited to, institutional investors, asset managers, corporations, hedge funds, and wealthy private investors. They are typically "price takers." Almost all FX trading occurs with Liquidity Providers such as Goldman Sachs.
- 22. Market Makers quote prices for a given volume of a specific currency pair. The price consists of both a "bid" and an "ask." The "bid" is the price at which the Market Maker is willing to buy a given volume of the base currency. The "ask" is the price at which the Market Maker is willing to sell a given volume of the base currency. A Market Maker is willing to either buy or sell.
- 23. By way of example, a Market Maker might quote the following price for a given volume of Euros:

<sup>&</sup>lt;sup>6</sup> Fed Triennial Bank Survey 2016, at 3.

BIS, Triennial Bank Survey 2016, at Table 1.

<sup>&</sup>lt;sup>8</sup> All Change in the 2016 Euromoney FX Rankings, EUROMONEY, https://www.euromoney.com/article/b12kp9ksqdg9gl/all-change-in-the-2016-euromoney-fx-rankings (last visited July 11, 2017).

The "ask" is also referred to as the "offer."

Currency Pair	Bid	Ask
EUR/USD	1.0588	1.0591

- 24. In this example, the currency pair is Euros to U.S. dollars, reflected by EUR/USD. Euros are the base currency, *i.e.*, the currency the Market Maker is willing to buy or sell. The U.S. dollar is the reference or quote currency, *i.e.*, the currency which is used for pricing. Here, the Market Maker is willing to buy Euros from a customer at a price of \$1.0588 per Euro. The Market Maker is willing to sell Euros to a customer at a price of \$1.0591 per Euro.
- 25. The difference between the bid and ask is called the "bid-ask spread." In the above example, the bid-ask spread is \$0.0003, calculated as the difference between the price the Market Maker will sell Euros (\$1.0591) and buy Euros (\$1.0588). The bid-ask spread is one way in which the Market Maker is compensated.

#### **Electronic Trading of FX**

- 26. Traditionally, most FX was traded via voice (telephone) trading. A customer would simply call one or more banks and request a quote for a given volume of currency. The bank would offer the customer a spread on the currency. If the customer accepted by buying or selling at the offered spread, the trade would be processed. This process was known as a "request for quote" or "RFQ."
- 27. Over the last 15 years or so, FX trading has moved from voice to electronic trading platforms. Today, most FX trades occur electronically.
- 28. There are two general types of platforms used to electronically trade FX. The first type is known as a single-dealer platform. A single-dealer platform, as its name suggests, is an electronic platform where liquidity is traditionally provided by a single dealer, *i.e.*, the

operator of the platform.<sup>10</sup> Goldman Sachs's proprietary platforms Redi FX (launched in 2008) and Marquee Trader (launched in 2013) (collectively, "Goldman Platforms") are popular single-dealer platform. Most major banks have established single-dealer platforms on which their customers can trade.

29. Marquee Trader is prominently featured on the Goldman Sachs Electronic Trading (GSET) website (http://www.goldmansachs.com/what-we-do/securities/sales-and-trading/electronictrading.html). Goldman Sachs promises that GSET FX customers will experience their "team's strategic consultation skills, superior execution, award-winning technology and excellence in research." As of March 2015, Goldman Sachs's website announced that Marquee Trader "provides superior execution solutions for navigating the evolving FX landscape." The platform possessed "advanced technology, global reach, and access to liquidity from Goldman Sachs," along with "deliver[ing] real-time Goldman Sachs research and commentary." Goldman Sachs advertised Marquee Trader's "dealable streaming and RFQ pricing available on over 100 crosses." Customers had "access to global support 24 hours a day, 5 and a half days a week." The FX platform offered "enhanced order execution," with "aggressive mode smart-order routes to multiple sources to find liquidity." On the GSET

Today, many single-dealer platforms, such as Marquee Trader, also allow their customers to access liquidity from outside sources.

<sup>&</sup>quot;Securities Foreign Exchange", http://web.archive.org/web/20161029064311/http://www.goldmansachs.com/what-we-do/securities/products-and-business-groups/products/fx.html (last visited July 12, 2017).

<sup>&</sup>quot;Foreign Exchange: Overview", https://web.archive.org/web/20150320193718/http://gset.gs.com/Products/ForeignExchange/Overview, (last visited July 12, 2017).

<sup>&</sup>quot;Foreign Exchange: Order Execution", https://web.archive.org/web/20150320193711/http://gset.gs.com/Products/ForeignExchange/OrderExecution (last visited July 12, 2017).

website, Goldman Sachs praises Marquee Trader's "superior execution solutions for navigating the evolving landscape," promising to "work to provide clients with the fastest, most profitable possible execution quality." According to the GSET website, Marquee Trader has distinct contact numbers for clients across the world, its own support staff, and its own sales personnel. It has been operating for many years.

- 30. Goldman Sachs widely distributed marketing materials and advertising for this platform to the general public through, among other channels, the internet, such that these platforms were available to persons who desired to enter into electronic FX transactions.
- 31. The second type of electronic FX trading platform is a multi-dealer platform, commonly referred to as an ECN. Some of the most popular ECNs used by the buy side are Hotspot FX, FXall, and Currenex. These ECNs provide a user with access to multiple Liquidity Providers, including Goldman Sachs.
- 32. Goldman Sachs's FX trading is conducted through three broad categories: (1) clients that trade directly on Goldman Platforms using Goldman Sachs's graphical user interface ("GUI"); (2) clients that trade using an ECN (such as Hotspot FX, FXall, and Currenex) that provides access to multiple Liquidity Providers, including Goldman Sachs; and (3) clients that trade directly with Goldman Sachs using a financial information exchange application program interface ("FIX/API").
- 33. Whether a single-dealer platform or another ECN, all electronic FX trading platforms work basically the same way. They provide the end-user with price and quantity data for various currency pairs. Depending on the platform and the user settings, that data can come

<sup>&</sup>quot;Securities: Foreign Exchange", http://www.goldmansachs.com/what-we-do/securities/sales-and-trading/electronictrading.html (last visited July 12, 2017).

from a single Liquidity Provider, such as Goldman Sachs, multiple Liquidity Providers, or all participants sharing data on the platform.

34. The following is a screenshot of the user interface for Goldman Sachs Marquee Trader:





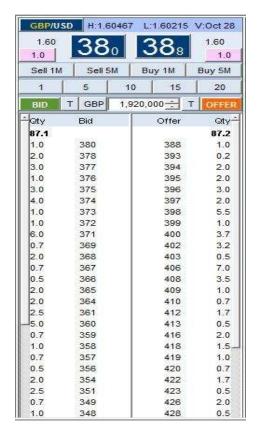
35. To illustrate the similarity between the interfaces of different platforms, below is a screenshot for a leading multi-bank ECN, HotSpot FX:



- 36. Subject to exceptions not relevant here, on Redi FX and Marquee Trader, Goldman Sachs alone would provide the data that appears. On other ECNs, the data would come from various Liquidity Providers as well as other buy-side market participants.
- 37. Liquidity Providers, such as Goldman Sachs, set the market price for a given volume of particular currency pairs by streaming prices at which the Liquidity Provider is willing to buy or sell a specified quantity (*e.g.*, \$1 million, \$5 million, or \$10 million) of that currency at a given moment. Because the FX market is extremely active, these prices are quickly acted upon or withdrawn and replaced with new streaming prices reflecting the new market price for that

currency pair. As a result, the client receives a constantly updating stream of executable bid and ask prices for a currency pair.

38. When trading on a single-dealer platform such as Redi FX or Marquee Trader, end-users typically see only one bid and ask price at any given time – that of the current price of a single Liquidity Provider prepared to act as counterparty. On a multi-dealer ECN, end-users see a stack of streaming prices from various Liquidity Providers and other market participants sorted to show the best available prices on both the bid and ask side (referred to alternatively as a "price ladder" or "market depth"). For example:



- 39. Another way that Liquidity Providers such as Goldman Sachs offer to trade on electronic trading platforms is by responding to a buy-side market participant's request for quote ("RFQ") or request for stream ("RFS") on a specified quantity of currency. The Liquidity Provider then responds to that request with a price for which it is willing to trade that takes into account the size of the order and the identity of the market participant placing the order, including any special relationship that the Liquidity Provider has with the market participant. Like streaming prices, the market participant has the option to place a trade at the quoted price until that quote is cancelled.
- 40. The bid and ask prices that Liquidity Providers quote to a counterparty as a result of a request for quote, or request for stream, often differ from the executable bid and ask prices that Liquidity Providers stream to the market.

- 41. All platforms clearly distinguish between executable streaming prices and prices that result from a request for quote or request for stream. The former can change in milliseconds as they are filled, replaced, or cancelled. The latter appear only as a result of a specific request from an end-user, which are usually valid for a set period of time.
- 42. Buy-side market participants' electronic orders can be broadly grouped into one of two categories: (1) market orders, which execute at the prevailing market price; and (2) limit orders, which execute only if the prevailing market price is equal to or better than a specific price input by the end-user.
- 43. When a buy-side market participant enters an order, sophisticated computer algorithms match that order to streaming prices within the electronic FX platform, including by Liquidity Providers. For limit orders, the algorithms are supposed to match and execute an order only if there are orders within the platform matching the desired limit price. For market orders, the algorithms will match and execute an order to the order representing the best available market price currently within the platform.
- 44. For orders placed on a single-dealer platform, the matching and execution algorithms are programmed by the Liquidity Provider, which in the case of Redi FX and Marquee Trader was Goldman Sachs. For orders placed on multi-dealer ECNs, the matching algorithms may be programmed by either the Liquidity Provider or the ECN, and the Liquidity Provider determines whether to accept or reject the trade, including whether and how to apply Last Look.
- 45. One of the major benefits of trading electronically is the speed with which trades can be executed. One second is an extraordinarily long time in the FX market. Market activity

moves market prices in milliseconds. The speed of execution is particularly important during times of market volatility, where the speed and magnitude of price movements are exacerbated.

- 46. When a buy-side market participant enters an order, there is a delay between the time the order is entered by the buy-side market participant and when that order is received by the FX platform and matched with a corresponding streaming price. If the Liquidity Provider has set a new price for the FX transaction detailed in the order before that order is received by the matching engine and the engine's computer algorithms have matched that order with a corresponding price from a Liquidity Provider, then the Liquidity Provider is not bound to execute that FX transaction at the prior price.
- 47. If, however, the buy-side market participant's order is based on a price that has not yet been withdrawn or replaced by the Liquidity Provider during the time it takes for the order to be received by the FX platform, then the matching engine's computer algorithms match that order with the corresponding price from a Liquidity Provider. Once two orders are matched, a contract is formed and neither can be withdrawn or matched with another order.

#### Goldman Sachs Uses Last Look Algorithms to Avoid Agreed Pricing

- 48. During most of the Class Period, many platforms, including Goldman Platforms, had technology enabling them to match and execute nearly 100% of all trades in under five milliseconds.<sup>15</sup>
- 49. Goldman Sachs understood the importance of fast execution of electronic trades. Market prices can vary significantly in a second. Accordingly, Goldman Sachs has the technology to execute matched orders in a matter of milliseconds. In the interdealer market, Goldman Sachs quickly executes electronic trades with other large banks.

 $<sup>^{15}</sup>$  1,000 milliseconds equal one second. Five milliseconds thus equal 1/200th of one second.

- 50. However, when dealing with Plaintiff and the Class, Goldman Sachs programmed an unnecessary delay of anywhere from several hundred milliseconds to several seconds into its execution algorithms. This intentional delay has been dubbed the Last Look period.
- 51. Goldman Sachs's Last Look period occurred after the buy-side market participants' orders were received by the FX platform and matched with a corresponding outstanding Goldman Sachs' price (i.e., a price that Goldman Sachs had not withdrawn or replaced prior to the match). Once the customer's order was matched, the customer could not withdraw the order.
- 52. In May 2003, Currenex, an emerging ECN at the time, attracted Liquidity Providers by agreeing to their demand to stream prices so long as they could reject trades based on those prices even after a match occurred. Upon information and belief, Goldman Sachs first used this intentional delay, its Last Look, on Redi FX when it was launched in February 2008, and on Marquee Trader when it was launched in 2013. On Redi FX and Marquee Trader, Goldman Sachs further applied Last Look to all API/FIX and ECN trades, as well as a portion of those customers using Goldman Sachs's GUI.
- 53. When a customer entered a market order for a particular currency on Goldman Platforms that corresponded with Goldman Sachs's streaming price, Goldman Sachs's algorithms matched the customer's market order to Goldman Sachs's price within several milliseconds. Absent its Last Look, Goldman Sachs would have executed the matched order in several more milliseconds. Instead, Goldman Sachs's algorithms delayed the execution for sometimes at least several hundred milliseconds, during which time Goldman Sachs used the information derived from the order (quantity, buy or sell, etc.) to its trading advantage.

- 54. Goldman Sachs programmed into its execution algorithms the unilateral ability to renege on a customer's order that Goldman Sachs had already matched and accepted.
- 55. When the mid-price at the time the counterparty executed the trade moved beyond a predetermined threshold by end of the hold period, Goldman Sachs reneged on the trade. When customers executed multiple trades during the hold period, Goldman Sachs could renege on some, or all, of the multiple trades placed within the hold period.
- 56. Fundamentally, Goldman granted itself an undisclosed option to unilaterally evaluate the trade for the purpose of determining whether to consummate the transaction.
- 57. In some circumstances, Goldman Sachs's use of Last Look would not only result in Goldman Sachs reneging on otherwise matched and agreed trades, but also resulted in customers' trades being filled at a worse price because Goldman Sachs would fill the orders at the price at the end of the hold time if and only if the prices moved in Goldman Sachs's favor beyond a predetermined threshold. For example, customers that traded "at market" through FIX/API would have their prices "adjusted" by Goldman Sachs at the end of the hold period if the market moved in the customer's favor beyond a predetermined threshold. Thus, the customer did not get the previously matched, "best available" market price.
- 58. Goldman Sachs also implemented Last Look on customer orders that were entered as "stop loss" or "stop limit" orders. These orders are designed to limit an investor's loss in a position by allowing the customer to predetermine that a trade should be executed once the market price reaches a particular level. The order remains on Goldman Sachs's order book until the price is reached. Except, Goldman Sachs would apply a hold period, and the order would not be executed until the end of hold time (or otherwise adjusted or rejected depending on if other

Last Look protocols were applied). As a result, the order would be executed at a price that was less advantageous to the customer.

- 59. By reneging on received and matched trades when doing so was to its financial benefit, Goldman Sachs significantly and artificially increased its FX trading profits at the expense of buy-side counterparties.
- 60. Goldman Sachs also used the same Last Look practices on ostensibly independent, third-party ECNs.
- 61. Goldman Sachs never disclosed to its customers that it was using Last Look to obtain favorable trading results against them, and its customers never consented to Last Look.
- 62. Although buy-side market participants can (and do) execute trades directly with each other on ECNs, Liquidity Providers, such as Goldman Sachs, still act as counterparties in most FX trades executed on ECNs.
- 63. ECNs earn money by charging a fee based on the volume of currency exchanged through their platforms. Without the liquidity provided by Goldman Sachs and other major dealers, there would be significantly less flow of FX volume on ECN platforms, and, as a consequence, their business models would become unsustainable.
- 64. As a condition of providing liquidity to ECNs open to buy-side market participants, Goldman Sachs required ECNs to permit it to use Last Look when trading through those platforms. Granting concessions to Liquidity Providers such as Goldman Sachs was essential to any start-up ECN's economic survival: ECNs were hostage to Goldman Sachs's demands. Because relatively few dealers are willing or able to act as Market Makers, ECNs had to attract major Liquidity Providers such as Goldman Sachs to their platforms in order to generate any appreciable FX volume.

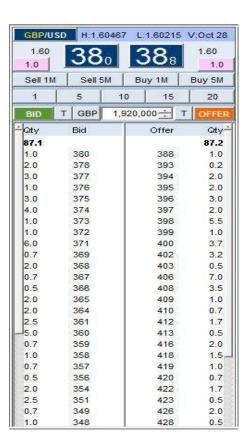
- 65. Thus, while the matching of orders on ECNs is controlled by the ECNs' algorithms, once any order is matched to Goldman Sachs's streaming price, Goldman Sachs's algorithms still delay execution of matched orders and determine whether the trade will execute at all.
- on their platforms represent immediately executable offers to trade on the stated terms. Leading ECN Hotspot FX, for example, advertised on its website that the benefits of trading on its platform "include full depth-of-book view, centralized price discovery, direct and anonymous market access, *instantaneous trading on live, streaming prices* and robust real-time pricing, benchmark, and reference data."<sup>16</sup>
- 67. At least the following ECNs have granted or continue to grant Goldman Sachs's last-look privileges, including the ability to renege on matched orders: Currenex, FXAll, and 360T. These ECNs cater to clients all over the United States and the world. Notably, when Liquidity Providers trade directly with each other on multi-dealer platforms such as Reuters Matching and EBS Market, they do not use Last Look.

# **Examples of How Goldman Sachs Used Last Look to Damage Buy-Side Market Participants**

68. When a buy-side market order is matched to Goldman Sachs's streaming price on a Goldman Platform or an ECN, Goldman Sachs knows that its price is the best available price at which that market order can execute and that while it is matched, the market order cannot match with any other order.

https://web.archive.org/web/20150310225517/http://www.kcghotspot.com/overview/index.jsp (emphasis added)

- 69. While delaying the execution of the matched order and preventing the order from proceeding with an alternative counterparty, Goldman Sachs places a new streaming price that is slightly more profitable for Goldman Sachs, and withdraws the matched trade so that the buy-side order will match with Goldman Sachs's new price, thus giving itself the undisclosed ability to execute the trade at a more profitable price-point.
  - 70. The ECN market depth example below can provide an illustrative example.



71. This ECN interface shows the market depth for the currency pair GBP/USD, sorted from highest to lowest price on the bid side (buy orders), and from lowest to highest on the ask side (sell orders). A market participant wanting to buy one million GBP at the current

market price sees that the best offer to sell is \$1.60388, which is less than the next-best price of \$1.60393. The market participant thus places a market order and should receive a price of \$1.60388 if that price is not withdrawn or replaced prior to the order being received and matched. However, if Goldman Sachs placed the streaming price at \$1.60388, Goldman Sachs's Last Look protocols may renege on the trade at \$1.60388 and enter a new price for \$1.60392. With \$1.60392 now reflecting the best price, and the buyer's order unable to match with another order while it was matched with Goldman Sachs, the ECN's algorithm would then match the buyer's market order with Goldman Sachs's new, higher price, and Goldman Sachs's algorithms would again use their logic to decide whether to perform and realize the profit created by its breach or renege on this new agreement and repeat the cycle.

- 72. Through this bait-and-switch which takes place in milliseconds Goldman Sachs extracted additional profit at the expense of the unsuspecting buy-side market participant. The buy-side participant would only see the final terms of the trade and would assume that the price of \$1.60388 was either withdrawn or filled by another trade in the milliseconds before their market order was placed and matched with a corresponding Goldman Sachs price.
- 73. Significantly, if a buy-side market order was matched to the order of another buy-side market participant on an ECN, the platform's algorithms would execute the matched trade immediately (in a matter of a few milliseconds). And because trading on ECNs is typically anonymous to buy-side participants, a buy-side participant would not know whether its counterparty was a Liquidity Provider such as Goldman Sachs, whether its order had been last-looked, or whether its order had been rejected and subsequently executed at a less favorable price.

# Goldman Sachs Systematically Used Last Look to Injure Plaintiff and Other Buy-Side Market Participants

- 74. Every day, Goldman Sachs is a party to thousands of electronic spot and forward FX transactions daily worth hundreds of billions of dollars in notional value.
- 75. Goldman Sachs's misrepresentations, omissions of material facts, acts of concealment, and failures to disclose were knowing and intentional and were done for the purpose of deceiving Plaintiff and Class members and obtaining their monies for Goldman Sachs's gain.
- 76. To the limited extent that the buy-side community was aware that something called "last look" existed, its benign name obscured its nefarious purpose. Where Last Look was ostensibly directed at preventing technology issues, such as latency, from putting currency dealers at a disadvantage, Goldman Sachs and others used its functionality to turn the tables and put those same traders at a disadvantage.
- 77. Goldman Sachs's actual use of Last Look, including its excessive hold times, also placed it in a position to exploit the information it gleaned from customers' orders to trade on Goldman Sachs's own account with a significant advantage. While Plaintiff and Class members are not yet in a position to confirm that Goldman Sachs necessarily did so with any frequency, the profits it could have earned by doing so are such that Goldman Sachs was at least aware of the possibility.
- 78. Goldman Sachs nevertheless rejected hundreds of matched electronic FX trades every business day from 2008 to 2017 using Last Look. During the Class Period, Goldman Sachs rejected tens of thousands of matched electronic FX trades using Last Look on Goldman Platforms and on various ECNs. These rejected trades have injured thousands of unsuspecting buy-side market participants such as Plaintiff and Class members by causing their orders to be

executed at less favorable prices. Simultaneously, Goldman Sachs has used Last Look to generate millions of dollars of profit that it would not have earned had it allowed matched electronic FX trades to execute as intended and as Class members expected.

79. As noted in a July 2014 article titled "FX Focus – Look Back in Anger" — published in leading industry publication, FX WEEK – the use of Last Look to reject matched trades is difficult to prove with currently available information because what goes on inside electronic trading platforms is largely opaque to buy-side market participants.<sup>17</sup> But the article also described how one senior trader at a buy-side bank was able to find "compelling evidence" of Liquidity Providers' abuse of Last Look:

Such behaviour is hard to prove, but a senior e-FX trader at a large, London-based bank believes he has found compelling evidence of it, after completing some research for a client. "We put together a chart on the response times and order fill ratios of the 12 banks this client traded with. They were all big banks — essentially the top dozen liquidity providers in the market," he says.

The trader found that, of the 12 banks, four had average response times of less than 100ms and order fill rates of 88–98%. A further four had average response times of 250–350ms and an average fill rate of around 75%. "That's quite a significant increase in latency when you consider all these pricing engines are co-located. There should be very minimal differences in latency between the top providers," he says.

The trader's suspicions of last look being abused were heightened by the data from the final four banks, which had an average latency of 450–550ms and fill rates of 50–65%. "That basically means those dealers are using last look to throw away every single trade they don't like. That is not about latency protection – it's about unfair liquidity provision."

While 500ms might not sound a long delay to the average person, the FX market has numerous price updates every second of every

Michael Watt, *FX Focus – Look Back in Anger*, FX WEEK (July 11, 2014), http://www.fxweek.com/fx-week/analysis/2354192/fx-focus-look-back-in-anger. [note that this is a subscription website].

trading day. "If you think about it in terms of a hundred metres race, the difference between 25ms latency and 500ms latency is the difference between being first and being five or 10 metres behind the guy who comes first. Half a second is an eternity in this market," he says.

\* \* \*

The heads of e-FX trading at three other global dealer banks also say they have noticed such behaviour. All three wished to remain anonymous and declined to point the finger at specific firms, but one indicated that at least 60% of his sell-side competitors engaged in the practice. Several other major banks either declined to comment on this topic or were unable to provide a response by press time.

- 80. Similar evidence is not available to Plaintiff because it does not have access to the detailed trade logs that would show whether and when Plaintiff's market orders were matched to Goldman Sachs's prices; whether Goldman Sachs last-looked Plaintiff's orders, and if so, for how long; whether Goldman Sachs rejected Plaintiff's orders via Last Look, and if so, whether those rejections caused Plaintiff's orders to be filled at less favorable prices.
- 81. Likewise, Plaintiff does not have access to Goldman Sachs's algorithms that were used to initiate the Last-Look delay on Plaintiff's orders or that contained the logic by which these algorithms rejected Plaintiff's and other buy-side market participants' orders. This information can only be obtained through discovery.
- 82. Nevertheless, because Plaintiff routinely executed spot FX trades with Goldman Sachs both on Goldman Platforms and on third-party ECNs, and because Goldman Sachs routinely used Last Look with respect to the matched orders of buy-side users, it is inconceivable that Goldman Sachs did not reject at least one of Plaintiff's matched orders using Last Look.
- 83. Plaintiff and the other Class members were directly and proximately injured by Goldman Sachs's use of Last Look to renege on matched orders on electronic trading platforms.

  Goldman Sachs rejected matched trades that would have been favorable to Plaintiff and the Class

and detrimental to Goldman Sachs. As a consequence, matched buy-side orders were filled at a less favorable market price. Goldman Sachs's and ECNs' electronic trading records will show the amount of damages Plaintiff and the Class members suffered as a result of Goldman Sachs's use of Last Look, but Plaintiff expects that class-wide damages will be in the hundreds of millions of dollars.

#### **Regulatory and Industry Investigations of Last Looks**

- 84. On the eve of announcements by regulators around the world that they had reached settlements with numerous Liquidity Providers for their roles in the manipulation of benchmark rates such as the WM Reuters Closing Spot Rates, on November 11, 2014, FX WEEK published an article titled "Last look' will prevent settlement with regulators, warns New Change FX." The article quoted sources claiming that United States regulators, including the Department of Justice ("DOJ"), were investigating Liquidity Providers' last-look practices though those investigations were "currently at an early stage." <sup>18</sup>
- 85. A December 11, 2014 BLOOMBERG article for the first time revealed that "New York regulators have found evidence that Barclays Plc and Deutsche Bank AG may have used algorithms on their trading platforms to manipulate foreign-exchange rates, a person with knowledge of the investigation said." According to an anonymous source familiar with the investigation, "[t]he algorithms were embedded in Barclays's BARX trading platform and Deutsche Bank's Autobahn system." On February 12, 2015, BLOOMBERG reported that the

Eva Szalay, *Last Look' Will Prevent Settlement with Regulators, Warns New Change FX*, FX WEEK (Nov. 11, 2014), http://www.fxweek.com/fx-week/news/2380698/last-look-will-prevent-settlement-with-regulators-warns-new-change-fx.

Greg Farrell, *Lawsky Said to Probe Barclays*, *Deutsche Bank FX Algorithm*, BLOOMBERG (Dec. 11, 2014), http://www.bloomberg.com/news/articles/2014-12-10/ny-regulator-said-to-probe-deutsche-bank-barclays-fx-algorithms. [note that this is a subscription website].

New York Department of Financial Services had "ordered Barclays Plc and Deutsche Bank AG last year to hire monitors to examine their foreign-exchange operations," and by the end of 2014, "Barclays had its monitor in place, and Deutsche Bank was in the process of installing one."

86. A Reuters article published on February 10, 2015 indicated that Credit Suisse, Goldman Sachs, Société Générale, and BNP Paribas have also been served with subpoenas issued by the New York regulators. The article goes on to note the following:

The banks started to produce information in response in late January and have met with officials handling the investigation, the sources said.

At issue is a latency period between the time an offer is floated and accepted, and whether the banks are gaming their clients during that time, the people said. At least one bank claims the pause in the programs is designed to protect it from high-frequency traders, one source said.

But others familiar with the practice say the time lag is a way for banks to manipulate the rates so they favor them.

Transcripts of traders in online chat rooms that led to the settlements in November show them working together to move rates.

There also are transcripts in which they discuss the manipulation of algorithms, one source said.<sup>21</sup>

87. On or around March 3, 2015, it was reported that the DOJ and the Securities and Exchange Commission asked Barclays for information relating to BARX and its Last Look practices. On November 18, 2015, Barclays entered into a Consent Order with the New York State and Department of Financial Services. Barclays admitted it used Last Look in the manner

Greg Farrell, *Banks' Ability to Delay Currency Trades May Not Be Fair*, BLOOMBERG (Feb. 12, 2015), http://www.bloomberg.com/news/articles/2015-02-13/lawsky-says-he-sprobing-banks-last-look-option-on-fx-trades.

Karen Freifeld, *NY Financial Regulator Subpoenas Banks in Forex Probes*, REUTERS (Feb. 10, 2015), http://www.reuters.com/article/2015/02/10/usa-banks-probesidUSL4N0VK61V20150210.

described herein, agreed to pay \$150 million civil monetary penalty, agreed to terminate a Managing Director and Global Head of Electronic Fixed Income, Currencies, and Commodities ("eFICC") Automated Flow Trading, and agreed to an independent monitor.

88. Aside from the NYDFS, the 2015 British government publication, The Fair and Effective Markets Review (the "FEMR Review") a collaboration of the Bank of England, Financial Conduct Authority and the British Treasury "shares the concerns . . . that last look, in its current form, could also potentially be abused by Market Makers [i.e. Banks or Liquidity Providers], either by asymmetrically accepting or rejecting orders based on market moves after the order is placed, or by using the order to inform other trading activity prior to acceptance." The Review goes on to advise that "[a]t a minimum, further transparency measures are required to ensure market participants are sufficiently informed about how last look is employed in practice."

### Goldman Sachs Concealed that It Used Last Look to Renege on Otherwise Executable Orders

- 89. The statute of limitations relating to the claims for relief alleged herein have been tolled because of fraudulent concealment by reason of Goldman Sachs's active and inherently self-concealing conduct.
- 90. Plaintiff and members of the Class had no knowledge of Goldman Sachs's unlawful and self-concealing manipulative and inequitable acts. Reasonable due diligence could not have uncovered Goldman Sachs's wrongdoing because: (1) Goldman Sachs did not disclose that it was using Last Look on Goldman Platforms or other ECNs to favorably manipulate its trading position; (2) the trading process is opaque because all that market participants can see is the final product of the executed trade; and (3) the entire chain of events from order to

Fair and Effective Markets Review Final Report Section 2, at 31, available at <a href="http://www.bankofengland.co.uk/markets/Documents/femrjun15.pdf">http://www.bankofengland.co.uk/markets/Documents/femrjun15.pdf</a>>.

confirmation of execution usually takes place in less than a second. Nothing puts buy-side participants on notice that their orders were delayed or rejected through Last Look.

- 91. For those trades that were not filled due to Goldman Sachs's use of Last Look, Goldman Sachs took additional steps to obfuscate its actions. Although the news of a "last look" being used by major Liquidity Providers first surfaced several years ago, Liquidity Providers such as Goldman Sachs publicly insisted that Last Look was a necessary by-product of providing FX liquidity on multiple FX platforms. Because Liquidity Providers simultaneously place the same order on multiple different eFX platforms, they are ostensibly exposed to the risk of having that order executed on more than one platform even if they intend to enter into only a single transaction on those terms. Liquidity Providers thus claimed that Last Look was necessary to ensure that multiple trades were not executed on a single order.
- 92. Even if that were a valid justification for applying Last Look, this explanation of Last Look proved to be both pretextual and highly misleading. The explanation was pretextual because Liquidity Providers such as Goldman Sachs have the technology to withdraw a price from an ECN in several milliseconds; they do not need several hundred times that long to determine whether their order has been filled on another platform. The explanation was highly misleading because it suggested that Liquidity Providers only used Last Look to reject trades on orders that had already been filled elsewhere. But in fact, Goldman Sachs routinely reneged on its executable orders for reasons other than the order being filled on another platform.
- 93. The abuse of Last Look only started garnering attention in the buy-side FX community albeit very limited attention in the summer of 2014. A July 11, 2014 article in FX WEEK titled "Last look orders come under scrutiny" noted that "[m]arket-makers stand accused of using Last Look order types aggressively to dial up the profitability of their books,

with some buy-side participants warning the practice deserves as much regulatory scrutiny as the allegations of benchmark manipulation."<sup>23</sup>

- 94. An August 28, 2014 article in FX WEEK titled "Clients switch off dealers using aggressive last-look strategies" reported that due to the recent revelation of Defendants' abusive practices, "[b]uy-side clients have begun to switch off banks that use aggressive last-look strategies and deliberately increase reject ratios, as market awareness of the pitfalls of this type of ordering grows." The article went on to note that "[s]ome buy-side participants believe the practice could result in as big a scandal as the allegations of benchmark fixing that have blighted the industry for many months," and that "[i]t is understood sell-side participants have made the Bank of England aware of the issue."<sup>24</sup>
- 95. In the "Disclosure" section of Goldman's website, it lists the ECNs over which it trades Fixed Income (FX is considered part of Fixed Income). Goldman lists the following ECNs for its Fixed Income trading: Bloomberg, BondDesk, Bonds.com, Brokertec, Creditex, Currenex, Dealerweb, Espeed, FXall, Hotspot, i-Swap, KNIGHT LINK, KNIGHT MATCH, Knight BondPoint, Lava, MarketAxess, MarketAxess (DealerAxess), MTS S.P.A., The Muni Center, TradeWeb, TradeWeb Retail, Trad-X, and 360T. Goldman has declared an ownership interest in BondDesk, Dealerweb, MTS S.P.A., TradeWeb, and TradeWeb Retail.
- 96. Elsewhere in the "Disclosures" section of Goldman's website, in a document dated "As of December 2015," and titled "Goldman Sachs's Standard Spot Foreign Exchange Terms of Dealing," Goldman "describe[s] certain of the Firm's practices and the nature of its

Michael Watt, *Last Look Orders Come Under Scrutiny*, FX WEEK (July 11, 2014), http://www.fxweek.com/fx-week/news/2354579/last-look-orders-come-under-scrutiny.

Michael Watt, Clients Switch Off Dealers Using Aggressive Last-Look Strategies, FX WEEK (Aug. 28, 2014), http://www.fxweek.com/fx-week/news/2362297/clients-switch-off-dealers-using-aggressive-last-look-strategies.

relationship with its counterparties that trade, or offer to trade, in spot foreign exchange" ("Goldman's Terms of Dealing"). Goldman's Terms of Dealing - dated a month following the NYDFS's announcement of its settlement with Barclays for its use of Last Look (see Part I, above) - makes no mention of Last Look nor does it stipulate whether its Terms of Dealing apply to its FX trading over GSET, over ECNs, or both.

97. Based on publicly available information, it was not until Goldman Sachs' March 2017 "Terms of Dealing" that it first acknowledged on its website that Goldman Sachs used Last Look, including doing so asymmetrically. Goldman Sachs states:

Due to the speed of the market and execution delays (including time delays that the Firm may elect to impose on a counterparty-by-counterparty basis, in light of the risks inherent in its electronic market making and risk management activities), the price available for execution of any transaction with you may change between the time of submission of your electronic trade request and the time that you receive a response to your electronic offer, even if the lapse of time is small. This may result in rejection of all or part of your electronic offer, including in cases where the market has moved favorably to you, even though we may choose to accept electronic offers where the market has moved favorably to us. If we determine to execute, the costs or benefits of any price changes may, in our discretion, be retained by us.

98. Plaintiff thus asserts the tolling of the applicable statute of limitations affecting the rights of the claims of relief asserted by Plaintiff. Defendants are also equitably estopped from asserting that any otherwise applicable limitations period has run.

#### **CLASS ACTION ALLEGATIONS**

99. Plaintiff brings this action on behalf of itself and as a class action under Rule 23(a), (b)(2) and (b)(3) of the Federal Rules of Civil Procedure on behalf of the following persons:

All persons in the United States who, between January 1, 2008 and February 28, 2017 (the "Class Period"), placed an order either on a Goldman Platform or a third party ECN that (1) was matched to Goldman Sachs's streaming price; (2) was rejected by Goldman

Sachs; and (3) was subsequently filled at a price less favorable than the original Goldman Sachs price to which it was matched.

Specifically excluded from this Class are Defendants; the officers, directors, or employees of any Defendant; any entity in which any Defendant has a controlling interest; any affiliate, legal representative, heir, or assign of any Defendant and any person acting on their behalf.

Also excluded from this Class are any judicial officer presiding over this action and the members of his/her immediate family and judicial staff, and any juror assigned to this action.

- 100. The Class is readily ascertainable and is one for which records should exist, including, specifically, Goldman Sachs's records and transaction data.
- 101. Due to the nature of the trade and commerce involved, Plaintiff believes that there are thousands of geographically dispersed Class members, the exact number and their identities being known to Goldman Sachs and the ECNs to which it streamed prices.
- 102. Plaintiff's claims are typical of the claims of the members of the Class. Plaintiff and members of the Class sustained damages arising out of Goldman Sachs's common course of conduct in violation of the laws alleged herein. The damages and injuries of each member of the Class were directly caused by Goldman Sachs's wrongful conduct.
- 103. There are questions of law and fact common to the Class, including, but not limited to, the following:
  - A. whether Goldman Sachs programmed its eFX execution algorithms to reject executable orders via Last Look;
  - B. whether Plaintiff and Class members' orders constituted offers;
  - C. whether Class members' orders that were matched to Goldman Sachs's streaming prices constituted acceptance of Plaintiff's and Class members' outstanding offers;
  - D. whether Goldman Sachs's use of Last Look to reject matched orders on eFX platforms constituted breaches of contract;

- E. whether Goldman Sachs was unjustly enriched as a result of its use of Last Look; and
- F. the appropriate Class-wide measures of damages.
- 104. Plaintiff will fairly and adequately protect the interests of the members of the Class. Plaintiff's interests are aligned with, and not antagonistic to, those of the other members of the Class, and Plaintiff has retained counsel competent and experienced in the prosecution of class actions and FX-related litigation to represent themselves and the Classes.
- 105. Questions of law or fact that are common to the members of the Class predominate over any questions affecting only individual members of the Class.
- 106. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. The prosecution of separate actions by individual members of the Class would impose heavy burdens on the courts and Goldman Sachs and would create a risk of inconsistent or varying adjudications of the questions of law and fact common to the Class. A class action, on the other hand, would achieve substantial economies of time, effort, and expense, and would assure uniformity of decision as to persons similarly situated without sacrificing procedural fairness or bringing about other undesirable results. Absent a class action, it would not be feasible for the vast majority of the members of the Class to seek redress for the violations of law alleged herein.

#### **CLAIMS FOR RELIEF**

### FIRST CLAIM FOR RELIEF Breach of Contract on Goldman Platforms

107. Plaintiff repeats and incorporates by reference each of the foregoing allegations of this Complaint.

- 108. Plaintiff's and Class members' orders for currency trades placed on Goldman Platforms to be executed at the best available market price constituted offers by Plaintiff or the Class that Goldman Sachs could accept through performance.
- 109. Goldman Sachs did, in fact, accept Plaintiff's and the Class's offers when Goldman Sachs's computer algorithms matched Plaintiff's and the Class's offers with complementary Goldman Sachs streaming prices. Once matched, Plaintiff and the Class members could no longer withdraw their orders, and those matched orders became binding agreements to trade at the volume and price matched.
- 110. Each time Goldman Sachs failed to honor Plaintiff's and Class members' matched and accepted trade orders by using Last Look, Goldman Sachs breached its contract with Plaintiff and Class members.
- 111. Plaintiff and Class members were directly and proximately damaged by Goldman Sachs's breaches of contract because following Goldman Sachs's rejection of the matched trades via Last Look, Plaintiff's and Class members' market orders were filled at less favorable prices.

## **SECOND CLAIM FOR RELIEF Breach of Contract on Other ECNs**

- 112. Plaintiff repeats and incorporates by reference each of the foregoing allegations of this Complaint.
- 113. Plaintiff's and Class members' orders for currency trades to be executed at the best available market price placed on third party ECNs constituted offers that Goldman Sachs could accept through performance.
- 114. Goldman Sachs did, in fact, accept Plaintiff's and the Class members' offers when the ECN's computer algorithms matched Plaintiff's and the Class members' offers with complementary Goldman Sachs streaming prices. Once matched, Plaintiff and the Class

members could no longer withdraw their orders, and those matched orders became binding agreements to trade at the volume and price matched.

- 115. Each time Goldman Sachs failed to honor Plaintiff's and Class members' matched trade orders by using Last Look, Goldman Sachs breached its contract with Plaintiff and Class members.
- 116. Plaintiff and Class members were directly and proximately damaged by Goldman Sachs's breaches of contract because following Goldman Sachs's rejection of the matched trades via Last Look, Plaintiff's and Class members' market orders were filled at less favorable prices.

## THIRD CLAIM FOR RELIEF Unjust Enrichment

- 117. Plaintiff repeats and incorporates by reference each of the foregoing allegations of this Complaint.
- 118. By using Last Look to reject matched orders on Goldman Platforms and ECNs in order to increase Goldman Sachs's FX profits at the expense of Plaintiff and Class members, Goldman Sachs knowingly engaged in conduct that was unfair, unconscionable, and oppressive.
- 119. By using Last Look to reject matched orders on Goldman Sachs's proprietary platforms and ECNs, Goldman Sachs received direct and specific benefits conferred by Plaintiff and Class members, including Goldman Sachs knowingly receiving and wrongfully retaining excess profits that rightfully belonged to Plaintiff and Class members. In so doing, Goldman Sachs acted with conscious disregard for the rights of Plaintiff and Class members.
- 120. By rejecting matched orders that should have been executed, Goldman Sachs has been unjustly enriched at the expense of, and to the detriment of, Plaintiff and Class members.
- 121. Goldman Sachs's unjust enrichment is traceable to, and resulted directly and proximately from, its wrongful use of Last Look.

- 122. Under the common law doctrine of unjust enrichment, it is inequitable for Goldman Sachs to be permitted to retain the benefits it received, and is still receiving, from its wrongful use of Last Look. Goldman Sachs's retention of such funds under circumstances making it inequitable to do so constitutes unjust enrichment.
- 123. The financial benefits derived by Goldman Sachs rightfully belong to Plaintiff and Class members. Goldman Sachs should be compelled to disgorge in a common fund for the benefit of Plaintiff and Class members all wrongful or inequitable proceeds received by them. A constructive trust from which Plaintiff and all Class members may obtain restitution should be imposed upon all wrongful or inequitable sums received by Goldman Sachs traceable to Plaintiff and Class members.

#### REQUESTED RELIEF

- 124. Plaintiff requests relief as follows:
  - A. That the Court determine that this action may be maintained as a class action under Rule 23(a), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure, and direct that notice of this action, as provided by Rule 23(c)(2) of the Federal Rules of Civil Procedure, be given to Class members;
  - B. That the Court enter an order declaring that Goldman Sachs's actions, as set forth in this Complaint, violate the law;
  - C. That the Court award Plaintiff and Class members damages, punitive damages, and/or restitution in an amount to be determined at trial;
  - D. That the Court issue appropriate injunctive and other equitable relief against Defendants;
  - E. That the Court award Plaintiff pre- and post-judgment interest;
  - F. That the Court award Plaintiff its costs of suit, including reasonable attorneys' fees and expenses; and
  - G. That the Court award such other relief as the Court may deem just and proper.

#### JURY TRIAL DEMAND

125. Plaintiff demands a jury trial of all issues so triable.

Dated: July 12, 2017 s/ George A. Zelcs

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